UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,513	11/30/2001	Gregory T. Noren	1662-50500 JMH (P99-2795)	6516

22879 7590 11/16/2005	EXAMINER
HEWLETT PACKARD COMPANY	CHOULES, JACK M

HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400	ART UNIT	PAPER NUMBER
	2167	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7,10-22 and 25-34* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7,10-22 and 25-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claims 2-7, 10-22, and 25-34 are presented for examination.

Claim Objections

Claims 5 and 6 are objected to because of the following informalities: these

claims are dependent on claim 1 which was deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 12-21 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 12 recites the limitation "said new file version" in lines 2 and 3. There is

insufficient antecedent basis for this limitation in the claim. Note: claim 13 incorporates

the error of claim 12 by reference.Claim 14 recites the limitation "the new file version" in

lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the original file version" in lines 2 and 3 and "the

new file version" in line 3. There is insufficient antecedent basis for this limitation in the

claim.

Claim 16 recites the limitation "the new file version" in lines 2 and 3 and "the original file version" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 recites the limitation "the newer version" in line 8. There is insufficient antecedent basis for this limitation in the claim. Note: claims 18-21 incorporate the errors of claim 17.

Claim 18 recites the limitation "the second version" in line 2. There is insufficient antecedent basis for this limitation in the claim.Claim 20 recites the limitation "the second file version" in line 3. There is insufficient antecedent basis for this limitation in the claim.Claim 21 recites the limitation "the second file version" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitation "the second file version" in line 3. There is insufficient antecedent basis for this limitation in the claim.*Claim Rejections - 35 USC §*

103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2-3, 10-12, 17, 18, 23 and 25-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (hereinafter Parker US 6,366,930 B1) in view of Kakumani et al. (hereinafter Kakumani US 6,681,382 B1).

As per claim 30, Parker discloses a method of backing up a file, comprising: (a) making a change to an original version of a file thereby creating a new version of the file (Parker, col. 2, lines 3-67, "changed file"); (b) saving said new version (Parker, col. 2, line 23, "storing the current version"); (c) computing a transformation operator, the transformation operator is indicative of the differences between the original version of the file and the new version (Parker, col. 2, lines 21- 67, "computing the differences between the two previous and current versions to provide a forward delta and reverse delta"); (d) saving said transformation operator (Parker, col. 2, lines 23-24, "storing . . . the reverse delta of the changed file"); (e) applying the transformation operator on the new version of the file in order to recover the original version of the file (Parker, col. 2, lines 30-34, "to restore any requested file if it is located on-site by recovering the current version and subtracting the appropriate reverse deltas therefrom until the requested file is produced"); making a further change to said new file version to create a second new tile version, saving said second new file version, computing a second transformation operator which is indicative of the differences between the new file version and the second new file version, and saving said second transformation operator (Parker, col. 2, lines 1 8-67); and change to said new file version to create a second new file version, saving said second new file version, computing a second transformation operator which is indicative of the differences between the original file version and the second new file version, and saving said second transformation operator (Parker, col. 2, lines 18-67).

Parker teaches computing the transformation operator (Parker, col. 2, lines 55-62), but does not explicitly disclose the transformation operator is computed immediately upon the new version being saved. Kakumani teaches the transformation operator is computed immediately upon the new version being saved (Kakumani, col. 2, lines 19-23). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to modify the system of Parker by computing the transformation operator immediately upon the new version being saved (Kakumani, col. 2, lines 19-23). The motivation being to compute and save all the successive transformation operators between the changed files.

As per claim 2, Parker and Kakumani teach all the claimed subject matters as discussed in claim 30, and further teach saving said transformation operator in a separate tile (Parker, col. 2, lines I 8-67).

As per claim 3, Parker and Kakumani teach all the claimed subject matters as discussed in claim 2, and further teach said separate file containing said transformation operator is stored on a storage medium that also contains said new file version (Parker, col. *2, lines 18-67).

Claims 10-12, 17, 18, 23, and 25-34 are rejected on grounds corresponding to the reasons given above for claims 2-3, and 30.

Claims 4, 13, 19 and 26 are rejected under 35 U.S.C. l03(a) as being unpatentable over Parker et al. (hereinafter Parker US 6,366,930 B1) in view of Kakumani et al. (hereinafter) Kakumani" US 6,681,382 B1) and further in view of Wescott (US 6,223,323 B1).)

As per claim 4, Parker and Kakumani teach all the claimed subject matters as discussed in claim 3, except for explicitly disclosing said storage medium comprises a RAID storage subsystem. Wescott teaches a storage subsystem (Wescott, col. 1, lines 24-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Parker and Kakumani's combined system by using a RMD storage subsystem as disclosed by Wescott (Wescott col. 1, lines 24-31). The motivation being to improve performance and reliability of the storage system.

Claims 13, 19, and 26 are rejected on grounds corresponding to the reasons given above for claim 4.

Claims 5-7, 14-16, 20-22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (hereinafter Parker), US 6,366,930 B1 in view of Kakumani et al. (hereinafter Kakumani), US 6,681,382 B1 and further in view of Lash Pub. No.: US 2002/0188665 A1.

As per claim 5, Parker and Kakumani teach all the claimed subject matters as discussed in claim 1, and further teach computing the difference between the old and new version of the file (Parker, col. 2, lines 18-67). Parker does not explicitly disclosing said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file version. Lash teaches said transformation operator includes a difference value, said difference value being the difference between a numerical value in the original file version and a numerical value in the new file vision (Lash, page 5, (0053)). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the difference file of Parker by incorporating the difference of numerical value of the old and new version of file as disclosed by Lash (Lash, page 5, (00531) in the difference file of Parker. The motivation being to identify the difference between numerical values in the old and new version of file.

As per claim 6, Parker and Kakumani teach all the claimed subject matters as discussed in claim 30, and further teach computing the difference between the old and new version of the file (Parker, col. 2, lines I 8-67). Parker does not explicitly said transformation operator includes words or binary encoded values that have been deleted from the original file version to produce the new file version. Lash teaches said transformation operator includes words or binary encoded values that have been

deleted from the original file version to produce the new file version (Lash, page 5, (00531). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the difference file of Parker by including information whether words or binary encoded values that have been deleted from the original file to produce the new file as disclosed by Lash (Lash, page 5, (0053)). The motivation being to identify the difference between the old file and the new file.

Claim 7 is rejected on grounds corresponding to the reasons given above for claim 6. Claims 14-16, 20-22 and 27-29 are rejected on grounds corresponding to the reasons given above for claims 5-7.

Response to Arguments

Applicant's arguments filed 19 August 2005 have been fully considered but they are not persuasive. The applicant in essence argued to claims 10, 17, 25 and 30 that the prior art of record does not show or suggest "retrieving a transformation operator that is indicative of differences between a current version of the file and the file in existence at least two versions ago." The examiner responds that the since Parker teaches a version differencer that checks for changes periodically (Parker, column 4, lines 10-46) it would be implicit that at least at some point the file would go through at least too changes in the interval and thus the change detected and differenced would be at least two version separated from the original version.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sheedy et al.   US 4,912,637 A   Directly generates any version.

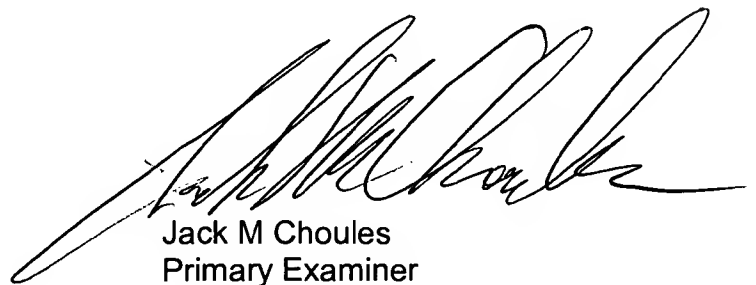Squibb   US 5,729,743 A   Merges system deltas.

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jack M. Choules whose telephone number is (571) 272-

4109. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jean R. Homere can be reached on (571) 272-3780. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jack M Choules
Primary Examiner
Art Unit 2167

14 November 2005